

What Is Claimed Is:

1. A stent for implantation in a vessel within the human body, the vessel having a vessel surface, the stent comprising:

an expandable generally tubular segment defining an inside surface and an outside surface and comprising a plurality of substantially straight, non-overlapping wire-like segments connected at a plurality of apices, the inside surface being regular and smooth to yield a low coefficient of friction, the outside surface being treated to yield a higher coefficient of friction with the vessel surface.

2. The stent as defined in claim 1 wherein the outside surface includes a macroscopic surface modification that engages the vessel surface.

3. The stent as defined in claim 1 wherein the outside surface includes an adhesive coating that bonds with the vessel surface.

4. The stent as defined in claim 2 wherein the macroscopic surface modification comprises cross-axial grooves.

5. The stent as defined in claim 2 wherein the macroscopic surface modification comprises cross-axial protrusions.

6. A stent for implantation into a vessel having a vessel surface, the stent having an expandable, generally cylindrical body portion defining an inside surface and an outside surface, the inside surface being regular and smooth to provide a low coefficient of friction, the outside surface being

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the outer surface of the stent at a plurality of locations, the step of engaging further comprising bonding the stent to the vessel surface using the adhesive coating.

13. The method as defined in claim 11 wherein the step of creating a plurality of features comprises a step of forming a plurality of cross-axial grooves in the outer surface of the stent, the step of engaging further comprising engaging the vessel wall into the plurality of cross-axial grooves.

14. The method as defined in claim 11 wherein the step of creating a plurality of features comprises a step of forming a plurality of cross-axial protrusions in the outer surface of the stent, the step of engaging further comprising engaging the plurality of cross-axial protrusions into the vessel wall.

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